AMENDMENTS TO THE CLAIMS

This listing of claims replaces all previous versions of claims in the application.

1-39 (cancelled).

1. (new) A compound represented by Formula I:

or a pharmaceutically acceptable salt thereof, wherein:

R¹ is selected from the group consisting of:

- a) C(O)R⁹, wherein R⁹ is selected from substituted or unsubstituted C(1-18) alkyl, substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl;
- b) C(O)-(CH₂)_n-(C(O))_p-(OCH₂CH₂)_mOR¹⁰, wherein n=0-6, p=0-1, m=0-22; and R¹⁰ is H, substituted or unsubstituted C(1-6) alkyl, substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl; and
- c) C(O)-(CHR¹¹)_n-NR¹²R¹³ wherein n=1-5; and R¹¹ is selected from the group consisting of: hydrogen, substituted or unsubstituted C(1-8) alkyl, substituted or unsubstituted C(1-8) aryl, and substituted or unsubstituted C(1-8) heteroaryl; and wherein R¹² and R¹³ are individually selected from the group consisting of: hydrogen, substituted or unsubstituted C(1-8) alkyl, substituted or unsubstituted C(1-8) aryl, substituted or unsubstituted C(1-8) aryl, substituted or unsubstituted C(1-8) heteroaryl, substituted or unsubstituted C(1-8) alkylcarbonyl, substituted or unsubstituted C(1-8) heteroarylcarbonyl; or wherein R¹² and R¹³ are combined to form a 5 to 7 membered substituted or unsubstituted heterocyclic ring system;

R² is H or C(1-4) alkyl;

R⁵ is selected from the group consisting of: H, methyl, and substituted or unsubstituted benzyl;

R⁶ is selected from the group consisting of:

(i) fluoro C(1-6)-alkyl, substituted and unsubstituted C(6-16)-aryl, substituted and unsubstituted heteroaryl, substituted and unsubstituted coumarinyl, and adamantyl;

(iii)
$$R^{23} \longrightarrow R^{26} \longrightarrow R^{26}$$

$$\{ \longrightarrow X \longrightarrow X \longrightarrow R^{26} \longrightarrow R^{26} \longrightarrow R^{26} \longrightarrow R^{25} \longrightarrow R^{26} \longrightarrow R$$

ring A

wherein

X is represented by a bond, O or $S(O)_n$, wherein n=0, 1, or 2, and is attached to ring A at the 2, 3, or 4 position;

ring B

R²³ on ring A is selected from the group consisting of H, halogen, C(1-8)alkyl, C(1-8) alkoxy and represents up to 4 substitutions;

 R^{24} through R^{28} of ring B is independently selected from the group consisting of: H, halogen, C(1-8) alkyl, C(1-8) fluoroalkyl, C(1-8) alkoxy,

wherein any two adjacent R²⁴ through R²⁸ groups may be combined to form a fused aryl, substituted aryl, heteroaryl, or substituted heteroaryl ring system; and

(iv)

X is represented by a bond, O or S(O)_n, wherein n=0, 1, or 2;

R²³ on ring A is selected from the group consisting of: H, halogen, C(1-8) alkyl, C(1-8) alkoxy and represents up to 4 substitutions;

R²⁴ through R²⁸ of ring B are independently selected from the group consisting of: H, halogen, C(1-8) alkyl, C(1-8) fluoroalkyl, and C(1-8) alkoxy; and wherein any two adjacent R²⁴ through R²⁸ groups may be combined to form a fused aryl, substituted aryl, heteroaryl, or substituted heteroaryl ring system; and wherein the heteroaryl ring systems of ring A and B contain at least one heteroatom and are substituted or unsubstituted.

- 2. (new) The compound, according to claim 1, in which R¹ is C(O)R⁹, wherein R⁹ is selected from substituted or unsubstituted alkyl C(1-18).
- 3. (new) The compound, according to claim 2, in which R^1 is $C(O)R^9$, wherein R^9 is substituted or unsubstituted alkyl C(1-8) alkyl.
- 4. (new) The compound, according to claim 1, in which R^1 is C(O)- $(CH_2)_n$ - $(C(O))_p$ - $(OCH_2CH_2)_mOR^{10}$, wherein n=0-6, p=0-1, m=0-22; and R^{10} is H, substituted or unsubstituted C(1-6) alkyl.
- 5. (new) The compound according to claim 4, in which R¹⁰ is H or CH₃.

- 6. (new) The compound, according to claim 1, in which R¹ is C(O)-(CHR¹¹)_n-NR¹²R¹³ wherein n=1-5; R¹¹ is selected from the group consisting of: hydrogen, substituted or unsubstituted C(1-8) alkyl, substituted or unsubstituted C(1-8) aralkyl, substituted or unsubstituted C(1-8) aryl, substituted or unsubstituted C(1-8) heteroaryl; and R¹² and R¹³ are individually selected from the group consisting of: hydrogen, substituted or unsubstituted C(1-8) alkyl, substituted or unsubstituted C(1-8) aryl, substituted or unsubstituted C(1-8) aryl, substituted or unsubstituted C(1-8) heteroaryl, substituted or unsubstituted C(1-8) alkylcarbonyl, substituted or unsubstituted C(1-8) heteroarylcarbonyl; or R¹² and R¹³ are combined to form a 5 or 6 membered substituted or unsubstituted heterocyclic ring system.
- 7. (new) The compound, according to claim 6, in which n=1.
- 8. (new) The compound, according to claim 6, in which R¹¹ is selected from hydrogen, substituted or unsubstituted C(1-8) alkyl.
- 9. (new) The compound, according to claim 6, in which R¹² and R¹³ are individually selected from hydrogen and substituted or unsubstituted C(1-8) alkyl.
- 10. (new) The compound, according to claim 6, in which R¹² and R¹³ are combined to form a 5 or 6 membered substituted or unsubstituted heterocyclic ring system.
- 11. (new) The compound, according to claim 1, in which R² is H or methyl.
- 12. (new) The compound, according to claim 11, in which R² is H.
- 13. (new) The compound, according to claim 1, in which R⁵ is H.
- 14. (new) The compound, according to claim 1, in which R⁶ is selected from the group consisting of:
- (i) fluoro C(1-6)-alkyl, substituted and unsubstituted C(6-16)-aryl, substituted and unsubstituted heteroaryl, substituted and unsubstituted coumarinyl, and adamantyl;

(iii)
$$\underbrace{ \begin{array}{c} R^{23} \\ R^{28} \\ 2 \end{array} }_{q} \underbrace{ \begin{array}{c} R^{27} \\ R^{26} \\ R^{25} \\ R^{25} \\ \end{array} }_{ring \ A} \underbrace{ \begin{array}{c} R^{27} \\ R^{25} \\ R^{25} \\ \end{array} }_{ring \ B}$$

X is represented by a bond, O or $S(O)_n$, wherein n=0, 1, or 2, and is attached to ring A at the 2, 3, or 4 position;

R²³ on ring A is selected from the group consisting of H, halogen, C(1-8)alkyl, C(1-8) alkoxy and represents up to 4 substitutions;

 R^{24} through R^{28} of ring B is independently selected from the group consisting of: H, halogen, C(1-8) alkyl, C(1-8) fluoroalkyl, C(1-8) alkoxy, wherein any two adjacent R^{24} through R^{28} groups may be combined to form a fused aryl, substituted aryl, heteroaryl, or substituted heteroaryl ring system.

- 15. (new) The compound, according to claim 12, in which R⁶ is selected from the group consisting of:
- (i) substituted and unsubstituted C(6-16)-aryl, substituted and unsubstituted heteroaryl;

(iii)

X is represented by a bond, O, and is attached to ring A at the 2, 3, or 4 position; R²³ on ring A is hydrogen; and

R²⁴ through R²⁸ of ring B is independently selected from the group consisting of: H, halogen, C(1-8) alkyl, C(1-8) fluoroalkyl and C(1-8) alkoxy.

16. (new) The compound, according to claim 1, in which R⁶ is chosen from the following:

$$\begin{picture}(0,0) \put(0,0){\line(0,0){0.5ex}} \put(0,0){\line(0,0){0.5ex}$$

- 17. (new) The compound, according to claim 1, in which the substituents are selected from the group consisting of:
 - 1) H, halogen, nitro, cyano, C(1-8) alkyl, C(1-8) fluoroalkyl, aralkyl, aryl, heteroaryl, C(1-8) alkylcarbonyl, arylcarbonyl, heteroarylcarbonyl, azide, B(OH)₂, and adamantyl;
 - 2) XR¹⁹ wherein X=O or S and R¹⁹ is C(1-8) alkyl, hydroxyl, C(1-4) alkoxy, fluoroalkyl, aryl, heteroaryl, lower alkylcarbonyl, arylcarbonyl, heteroarylcarbonyl, lower alkylaminocarbonyl, and arylaminocarbonyl; and
 - 3) NR¹⁴R¹⁵ wherein R¹⁴ and R¹⁵ are each independently C(1-8) alkyl, or wherein R¹⁴ and R¹⁵ are joined to form an alkyl or heteroalkyl ring system.

wherein the C(1-8) alkyl, C(1-8) fluoroalkyl, aralkyl, aryl, heteroaryl, C(1-8) alkylcarbonyl, arylcarbonyl, heteroarylcarbonyl, and C(1-4) alkoxy may be further substituted by the substituents from 1), 2), and 3) above.

18. (new) A compound represented by Formula I

$$\begin{array}{c|c}
0 & 0 & R^5 \\
0 & N & N & R^5 \\
R^2 - N & S & N & R^6
\end{array}$$

selected from the group consisting of:

Compound	R ¹	R²	R ⁵	R ⁶
15	CH₃C(O)-	Н	Н	Ph
16	CH ₃ CH ₂ CH ₂ C(O)-	Н	Н	Ph
17	tert-BuOC(O)-	Н	Н	Ph
18	Boc(H)NCH₂C(O)-	Н	Н	Ph
19	TFA. H₂NCH₂C(O)-	Н	Н	Ph
20	Ac(H)NCH₂C(O)-	Н	Н	Ph
21	N N N N N N N N N N N N N N N N N N N	Н	Н	Ph
. 22	HO ₂ CCH ₂ CH ₂ C(O)-	Н	Н	Ph
23	S NH	Н	Н	Ph
24	S TFA H ₂ N	н	Н	Ph
25	Y N N N N N N N N N N N N N N N N N N N	Н	Н	Ph

Compound	R ¹	R²	R ⁵	R ⁶	
26	TFA HN	Н	Н	Ph	
27	(CH ₃) ₂ NCH ₂ C(O)-	Н	Н	4'-F-Ph	
28	CH₃C(O)-	Н	Н	diox-Ph	
29	CH₃OCH₂C(O)-	Н	Н	diox-Ph	
30	CH₃CH₂CH₂C(O)-	Н	Н	diox-Ph	
31	CH₃C(O)-	Н	Н	4-morph-Ph	
32	CH₃OCH₂C(O)-	Н	Н	4-morph-Ph	
33	CH ₃ CH ₂ CH ₂ C(O)-	Н	Н	4-morph-Ph	
34	CH₃C(O)-	Н	Н	3'-MeO-biPh	
35	CH₃OCH₂C(O)-	Н	Н	3'-MeO-biPh	
36	CH ₃ CH ₂ CH ₂ C(O)-	Н	Н	3'-MeO-biPh	
37	CH₃C(O)-	Н	Н	3'-CF ₃ -biPh	
38	CH₃CH₂CH₂C(O)-	Н	Н	3'-CF₃-biPh	
39	CH ₃ OCH ₂ C(O)-	Н	Н	3'-CF ₃ -biPh	
40	CH ₃ CH ₂ CH ₂ C(O)-	Н	Н	3'-CF₃-biPh	
41	0	Н	Н	3'-CF ₃ -biPh	
42	000000000000000000000000000000000000000	Н	Н	3'-CF ₃ -biPh	
43	tert-BuOC(O)-	Н	Н	3'-CF₃-biPh	
44	CH₃C(O)-	Н	Н	4-(4-Cl-PhO)Ph	
45	CH ₃ OCH ₂ C(O)-	Н	Н	4-(4-Cl-PhO)Ph	
46	CH₃CH₂CH₂C(O)-	Н	Н	4-(4-CI-PhO)Ph	
47		H	Н	4-(4-Cl-PhO)Ph	
48	PhCH ₂ OC(O)-	Н	Н	4-(4-CI-PhO)Ph	

Compound	R ¹	R ²	R ⁵	R ⁶	
49	O NH	н	Н	4-(4-CI-PhO)Ph	;
50	O NH	Н	Н	4-(4-CI-PhO)Ph	; and
51	NH O NH O NH	н	Н	4-(4-Cl-PhO)Ph	•

19. (new) A compound, according to the following formula:

- 20. (new) The compound, according to claim 1, is a salt encapsulated in an encapsulating agent.
- 21. (new) The compound according to claim 20, wherein the encapsulating agent is a cyclodextran.
- 22. (new) The compound according to claims 20, wherein the encapsulating agent is hydroxypropylcyclodextran (HPCD).

- 23. (new) The compound, according to claim 20, in which the salt is selected from the group consisting of: a sodium salt, an ethanolamine salt, a dimethylaminoethanol salt, and a 4-aminopyridine salt.
- 24. (new) The compound according to claim 23, in which the salt is a sodium salt.
- 25. (new) The compound, according to claim 1, is a prodrug.
- 26. (new) A prodrug represented by Formula I:

$$\begin{array}{c|c}
0 & N & R^5 \\
0 & N & N & R^6 \\
R^2 - N & S & N
\end{array}$$

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or a pharmaceutically acceptable salt thereof, wherein:

R¹ is selected from the group consisting of:

- d) C(O)R⁹, wherein R⁹ is selected from substituted or unsubstituted C(1-18) alkyl, substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl;
- e) C(O)-(CH₂)_n-(C(O))_p-(OCH₂CH₂)_mOR¹⁰, wherein n=0-6, p=0-1, m=0-22; and R¹⁰ is H, substituted or unsubstituted C(1-6) alkyl, substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl; and
- f) C(O)-(CHR¹¹)_n-NR¹²R¹³ wherein n=1-5; and R¹¹ is selected from the group consisting of: hydrogen, substituted or unsubstituted C(1-8) alkyl, substituted or unsubstituted C(1-8) aryl, and substituted or unsubstituted C(1-8) heteroaryl; and wherein R¹² and R¹³ are individually selected from the group consisting of: hydrogen, substituted or unsubstituted C(1-8) alkyl, substituted or unsubstituted C(1-8) aryl, substituted or unsubstituted C(1-8) aryl, substituted or unsubstituted C(1-8) heteroaryl, substituted or unsubstituted C(1-8) alkylcarbonyl, substituted or unsubstituted C(1-8) heteroarylcarbonyl; or wherein R¹² and R¹³ are combined to form a 5 to 7 membered substituted or unsubstituted heterocyclic ring system;

R² is H or C(1-4) alkyl;

R⁵ is selected from the group consisting of: H, methyl, and substituted or unsubstituted benzyl;

R⁶ is selected from the group consisting of:

(i) fluoro C(1-6)-alkyl, substituted and unsubstituted C(6-16)-aryl, substituted and unsubstituted heteroaryl, substituted and unsubstituted coumarinyl, and adamantyl;

(iii)
$$R^{23} \longrightarrow R^{26} \longrightarrow R^{26}$$

$$R^{25} \longrightarrow R^{26}$$

ring A

wherein

X is represented by a bond, O or $S(O)_n$, wherein n=0, 1, or 2, and is attached to ring A at the 2, 3, or 4 position;

ring B

R²³ on ring A is selected from the group consisting of H, halogen, C(1-8)alkyl, C(1-8) alkoxy and represents up to 4 substitutions;

R²⁴ through R²⁸ of ring B is independently selected from the group consisting of: H, halogen, C(1-8) alkyl, C(1-8) fluoroalkyl, C(1-8) alkoxy,

wherein any two adjacent R²⁴ through R²⁸ groups may be combined to form a fused aryl, substituted aryl, heteroaryl, or substituted heteroaryl ring system; and

(iv)

and
$$\begin{cases} \begin{cases} \begin{case$$

X is represented by a bond, O or S(O)_n, wherein n=0, 1, or 2;

R²³ on ring A is selected from the group consisting of: H, halogen, C(1-8) alkyl, C(1-8) alkoxy and represents up to 4 substitutions;

R²⁴ through R²⁸ of ring B are independently selected from the group consisting of: H, halogen, C(1-8) alkyl, C(1-8) fluoroalkyl, and C(1-8) alkoxy; and wherein any two adjacent R²⁴ through R²⁸ groups may be combined to form a fused aryl, substituted aryl, heteroaryl, or substituted heteroaryl ring system; and wherein the heteroaryl ring systems of ring A and B contain at least one heteroatom and are

wherein the heteroaryl ring systems of ring A and B contain at least one heteroatom and are substituted or unsubstituted,

wherein the prodrug is convertible in vivo or in vitro to a compound represented by Formula I-a

wherein R⁵ and R⁶ are as defined above.

27. (new) A composition comprising a compound, according to claim 1, together with a carrier.

- 28. (new) A method of preventing or treating peripheral neuropathy in a subject, the method comprising administering to the subject in need thereof an effective amount of the composition, according to claim 27.
- 29. (new) The method, according to claim 28, in which the peripheral neuropathy is induced by a toxic agent.
- 30. (new) The method, according to claim 29, in which the toxic agent is a neurotoxic agent or a chemotherapeutic agent.
- 31. (new) The method, according to claim 30, in which the chemotherapeutic agent is dideoxyinosine, deoxy cytizine, D4T, cisplatin, etoposide, vincristine, epithilone or its derivatives, TaxolTM/TaxoterTM or derivatives thereof.
- 31. (new) The method, according to claim 30, in which the neurotoxic agent is vincristine, vinblastine, cisplatin, TaxolTM, D4T or other antivirals, dideoxy compounds, alcohol, metals, industrial toxins, overdoses of vitamins A, D or B6, penicillin or chloramphenicol.
- 32. (new) A method of treating a neurodegenerative disease in a subject, the method comprising administering the subject in need thereof an effective amount of the composition, according to claim 27.
- 33. (new) The method, according to claim 32, in which the neurodegenerative disease is Alzheimer's disease, Parkinson's disease, ALS, Huntington's disease, muscular dystrophy, diabetes, HIV, an ischemic insult, retinal ganglion loss following acute ocular stroke or glaucoma, a neurodegenerative condition resulting from a viral infection, and a neuropathy resulting from the use of chemotherapeutic agents used in the treatment of HIV.
- 34. (new) The method, according to claim, 32 in which the neurodegenerative disease is a degenerative disease of the eye.
- 35. (new) A method of treating a neurodegenerative disease in a subject, the method comprising co-administering to the subject in need thereof the composition, according to claim

- 27, with COX-2 inhibitors, NSAIDS, acetylcholinesterase inhibitors, L-dopa, ACE inhibitors or insulin.
- 36. (new) A method of inducing axonal growth and/or repair in a subject, the method comprising administering the subject in need thereof an effective amount of the composition, according to claim 27
- 37. (new) A method of inducing axonal growth and/or repair in a subject, the method comprising administering to the subject in need thereof the composition, according to claim 27.
- 38. (new) A method of altering signal transduction in a subject, the method comprising administering to the subject in need thereof the composition, according to claim 27.
- 39. (new) A method of treating a proliferative disease in a subject, the method comprising administering to the subject in need thereof an effective amount of the composition, according to claim 27.
- 40. (new) The method, according to claim 39, in which the proliferative condition is cancer.
- 41. (new) The method, according to claim 40, in which the cancer is selected from the group consisting of prostate, colon, neuroblastoma, medulloblastoma, and breast cancer.
- 42. (new) A method of treating a proliferative disease in a subject, the method comprising co-administering to the subject in need thereof the composition, according to claim 27, with a chemotherapeutic.
- 43. (new) The method, according to claim 42, in which the chemotherapeutic is Taxol, cisplatin or vinca alkaloids.
- 44. (new) A process for producing a compound of Formula 1, according to claim 1, the process comprising:

$$\begin{array}{c|c}
0 & N & R^5 \\
N & N & R^6
\end{array}$$

coupling the sulfonamide:

and either R⁹COCI or (R⁹CO)₂O in a solvent

and a base so as to produce the following:

$$0 \stackrel{O}{\underset{R^9}{\bigvee}} \stackrel{N}{\underset{R^2}{\bigvee}} \stackrel{N}{\underset{N}{\bigvee}} \stackrel{R^5}{\underset{N}{\bigvee}} R^6$$

wherein R², R⁵, R⁶, and R⁹ are as defined herein.

45. (new) A process for producing a compound of Formula I, according to claim 1, the process comprising:

coupling the sulfonamide:

solvent and a base so as to produce the following:

and either R9COCI or (R9CO)2O in a

wherein R², R⁵, R⁶, and R⁹ are as defined herein.